

United States Patent and Trademark Office

APPLICATION NO. FILING DATE		FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO	
10/059,392 01/31/2002		Hitoshi Tauchi	218198US2	. 6083	
	90 11/18/2003	EXAMINER PARSONS, THOMAS H			
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1940 DUKE ST ALEXANDRIA		ART UNIT	PAPER NUMBER		
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Please find below and/or attached an Office communication concerning this application or proceeding.

1) Responsive to communication(s) filed on 31 January 2002 2a) This action is FINAL. 2b) This action is non-final. 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213. Disposition of Claims 4) Claim(s) 1-4 is/are pending in the application. 4a) Of the above claim(s) is/are withdrawn from consideration. 5) Claim(s) is/are allowed. 6) Claim(s) 1-4 is/are rejected. 7) Claim(s) is/are objected to. 8) Claim(s) is/are subject to restriction and/or election requirement.	, v					·	W		
Examiner	•1			Application No.		Applicant(s)			
Thomas H Parsons The MAILING DATE of this communication appears on the cover sheet with the correspondence address = Period for Reply A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION. Extransions of time may be available under the provisions of 31 CF8 1.136(a). In no event, however, may a reply be limitly filed after \$X (c) MONTHS from the mailing date of this communication. If the period interney be sentiled alove is lass than thin (50) they may be sent the statutory minimum of thinty (30) they with the boundation of the provision of 31 CF8 1.136(a). In no event, however, may a reply be limitly fleed after \$X (c) MONTHS from the mailing date of this communication. If the period interney several date is a state of the sentence of the period for reply will, by statute, cause the application to become ABANDCNED (35 U.S.C. § 133). Any reply received by the Office late then three mental sharp the mailing date of this communication, even if timely filed, may reduce any counted patient term adjustment. See 37 CF8 1.704(b). Status 1)				10/059,392		TAUCHI ET AL.			
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14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).		application from the Interr	national Bure	eau (PCT Rule 17	′.2(a)).		Stage		
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 a) The translation of the foreign language provisional application has been received. 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121. 									
Attachment(s)	Attachment(s)							
1) Notice of References Cited (PTO-892) 2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5. 4) Interview Summary (PTO-413) Paper No(s). 5) Notice of Informal Patent Application (PTO-152) 6) Other:	2) Notice	of Draftsperson's Patent Drawing Review (F		5) 🔲 1	Notice of Informal P				

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DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

Page 4, paragraph [0027], line 7, suggest changing "4a" to --4c--,

Page 5, paragraph [0027], line 1, suggest changing "positioned" to --position--;

Paragraph [0030], line 6, suggest changing "6a" to --5a--;

Paragraph [0031], line 3, suggest changing "4b" to --4d--;

Line 5, suggest changing "4a" to --4c--;

Paragraph [0032], line 4, suggest changing "15b" to --15a--;

Line 8, suggest changing "15a" to --15b--.

Appropriate correction is required.

Claim Objections

2. Claims 2-4 are objected to because of the following informalities:

Claim 2, line 6, "... to and one end and the other end..." appears awkwardly worded;

Claim 3, line 2, suggest inserting "soldering agent" after "second"; and,

Claim 4, line 2, suggest inserting "soldering agent" after "second".

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Fuschetti (5,429,680) as further evidenced by Merrian Webster's Collegiate Dictionary and Fleurial et al. (5,610,366).

Claim 1: Fuschetti in Figures 1-3 discloses a thermoelectric module (10)(col. 1: 16-18) comprising:

a case (12, wherein the box-shaped body 12 has been broadly interpreted as a case as further evidenced by Webster's which defines a case as a box or receptacle for holding something, or, a box together with its contents);

a heat-radiation side insulating substrate (21),

a heat-absorption side insulating substrate (20);

a first soldering layer (33) formed of a first soldering agent (col. 4: 56-col. 5: 11) at a position to connect the heat-absorption side insulating substrate and the case;

a plurality (col. 1: 37-41) of P-type (15) and N-type (16) semiconductor chips interposed between the heat-radiation side insulating substrate and the heat-absorption side insulating substrate, the plurality of P-type and N-type semiconductor chips being arranged alternately to be connected in a series; and

a second soldering layer (33) formed of a second soldering agent (col. 4: 56-col. 5: 11) at a position to connect the heat-radiation side insulating substrate and one end of each of the plural P-type and N-type semiconductor chips, the second soldering layer also connecting the heat-absorption side insulating substrate and the other end of each of the plural P-type and N-type

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semiconductor chips, the second soldering agent being identical with the first soldering agent in raw material. (col. 1: 16-col. 2: 7; and col. 3: 12-29).

Fuschetti shows a heat-absorption side insulating substrate (20) connected to a case (12) wherein the claimed invention requires a heat-radiation side insulating substrate connected to the case. Fleurial et al. are cited to show that the heat-absorption side insulating substrate of Fuschetti would inherently provide a heat absorption side insulating substrate (Figure 2a) or a heat radiation side insulating substrate (Figure 2b) depending upon the direction current (col. 6: 5-17).

Claim 2: Fuschetti discloses in Figures 1-3 a method of producing a thermoelectric module (10) comprising the steps of:

connecting a case (12, wherein the box-shaped body 12 has been broadly interpreted as a case as further evidenced by Webster's which defines a case as a box or receptacle for holding something, or, a box together with its contents); and a heat-absorption side insulating substrate (20) with a first soldering agent (33) to form a first soldering layer between the case and the heat-absorption side insulating substrate;

and connecting the heat-radiation side insulating substrate (21) and a heat-absorption side insulating substrate (20) to one end and the other end, respectively, of each of a plurality (col. 1: 37-41) of P-type (15) and N-type (16) semiconductor chips, with a second soldering (33) agent which is identical with the first soldering agent in raw material (col. 1: 16-col. 2: 7; and col. 3: 12-29).

Fuschetti shows a heat-absorption side insulating substrate (20) connected to a case (12) wherein the claimed invention requires a heat-radiation side insulating substrate connected to the

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case. Fleurial et al. are cited to show that the heat-absorption side insulating substrate of Fuschetti would inherently provide a heat absorption side insulating substrate (Figure 2a) or a heat radiation side insulating substrate (Figure 2b) depending upon the direction current (col. 6: 5-17).

Claim 3: Fuschetti discloses on col. 4: 56-col. 5: 11 the first soldering agent (33) and the second soldering agent (33) are selected from the group consisting of 95Sn5Sb, 96.5Sn3.5Ag, 100Sn, and 80Au20Sn

Claim 4: Fuschetti discloses on col. 4: 56- col. 5: 11 the first soldering agent and the second soldering agent selected from the group consisting of 95Sn5Sb, 96.5Sn3.5Ag, 100Sn, and 80Au20Sn.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas H Parsons whose telephone number is (703) 306-9072. The examiner can normally be reached on M-F (7:00-4:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan can be reached on (703) 308-2383. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

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